



**DISTRICT BOARD**

Megan Clark  
Rabi Elias  
Russ Greenfield  
Craig K. Murray  
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**DISTRICT ADMINISTRATION**

Chris DeGabriele,  
General Manager  
Michael Cortez,  
District Engineer  
Mel Liebmann,  
Plant Manager  
Susan McGuire,  
Administrative Services Manager  
Greg Pease,  
Collection System/Safety Manager

**ADDENDUM NO. 6**

Date: September 28, 2018  
Project: **Secondary Treatment Plant Upgrade & Recycled Water Expansion**  
Job No.: 12600-07/16650-02

To: All Planholders and Prospective Bidders

This addendum consists of twenty-two (22) pages including this page and all attachments with cover sheets broken down as follows:

Main Addendum #6 Document (including cover, signature page, and this sheet) – 7 pages

Attachment A – 11 pages (including cover sheet)

Attachment B – 4 pages (including cover sheet)

Acknowledge receipt of this addendum in the space provided on page 2-5, Proposal Cover Page and Bid Schedule, of the Bid Forms, and by signing in the space provided below. Submit original copy of this addendum cover page along with the bid. Failure to do so may disqualify the bidder.

Las Gallinas Valley Sanitary District:

Bidder: \_\_\_\_\_

\_\_\_\_\_

Michael P. Cortez, PE, District Engineer  
Tel. No. (415) 472-1033, ext. 18

(Authorized Signature)

(Date)

The following changes and/or clarifications are hereby made to the Contract Documents, and shall become a part of the Contract Documents dated July 2018.

**Volumes 1 & 2:**

1. **Bid Schedule:** The schedule has been updated due to a price change on the mechanical thickener equipment. The revised price is **\$313,400**. **For convenience, the entire bid schedule is attached to this addendum including all revisions to the schedule that have been listed in previous addenda.** The purpose of this price change is discussed in the update for Section 151100 below.

**Volume 3A**

1. **Section 011000:** Section 1.10.B is replaced as follows:

**"On-Site Work Hours: Limit work at the existing site to normal business working hours, which are 7:00 AM to 6:00 PM Monday through Friday and 9:00 AM to 6:00 PM on Saturday with Sunday and Holidays being prohibited. Work outside these hours must be approved by the District."**

2. **Section 151100:** The Table in section 1.3.F.3 (for the mechanical thickening equipment) is updated as follows to include the updated equipment package price:

<b>Mechanical Thickening Equipment Package</b>	<b>Bid Item #16.e</b>
Base Equipment Package	\$ 227,017.00
Submittals	\$ 17,935.00
Spare Parts	\$ 1,159.00
Sales Tax (9%)	<i>Included</i>
<b>Base Package Subtotal</b>	<b>\$ 246,111.00</b>
<b>Post RFP Changes</b>	
Addition of (2) Knife Gate Valves	\$ 3,541.00
Polymer System Pump Upgrade	\$ 11,076.00
Second Thickening Unit	\$ 47,972.00
Control Panel Upgrades	\$ 4,700.00
<b>Adjusted Total</b>	<b>\$ 313,400.00</b>
Submittals Already Paid	\$ -
<b>Net Amount Remaining</b>	<b>\$ 313,400.00</b>

For Bidder's information, the price change allows the manufacturer to meet the following requirements with regards to their supplied equipment package:

- Regarding UPS's provide as follows:
  1. APC Smart-UPS XL 1000VA USB and Serial 120V with Dry Contact I/O SmartSlot Card AP9613.
  2. APC Smart-UPS XL 1500VA USB and Serial 120V with Dry Contact I/O SmartSlot Card AP9613.

3. SUA24XLBP battery pack(s) as needed to reach specified backup time.
- Regarding panel network switches provide as follows:
    1. Control panels containing a PLC and/or remote I/O shall be equipped with a UPS, and managed industrial Ethernet switch. Switch shall be sized with twenty percent spare Ethernet ports.
    2. Manufacturer, no substitutions (choose Model based on required port count):
      - a. Moxa managed switch, part number EDS-510A.
      - b. Moxa managed switch, part number EDS-518A.

### **Volume 3B**

1. **Section 263213, Part 2.5:** The level of sound attenuation required for the standby generator was not listed in this section. The requirement shall be that the standby generator assembly shall be provided with sound attenuation resulting in a maximum of 85 dBA at a distance of 23 feet from the generator enclosure.

### **Volume 4A**

1. **Sheet C-4:** A swing gate is called out on drawing C-4. The gate height is 7'-0" and the gate width is 16'-0".
2. **Sheets C-4 and C-5:** Some of the new fencings are not clearly labeled on these sheets. For clarity, the new interior plant fence from the Dechlor Facility to the UV area, between the two gauntlet style sliding gates, and then continuing immediately adjacent to the process basins is Gauntlet style, item 7. The exterior plant fence adjacent to the retaining wall, is chain link style, item 7B.
3. **Sheet RM-1:** Clarification regarding the two (2) 50-HP motors mentioned in Note 13 on this sheet (and in similar notes on other "RM" sheets). These two motors are furnished as part of the membrane equipment package and will replace existing motors on existing blowers in the RWTF membrane building. Their purpose is to increase the capacity of the existing blowers associated with the membrane process. Volume 4B already includes details on what is required to incorporate these motors.

### **Volume 4B**

1. **Sheets E-44 and E-45:** Several conduits were changed to match sizes as shown in the conduit schedules – the changes are as follows:
  - a. DB-4
    - i. P23-1300A, P23-1400A, P23-1500A changed to 1.5"
    - ii. SP31-2000A changed to 2"
    - iii. SP31-1110A changed to 3"
  - b. DB-5

- i. P108A changed to 1”
    - ii. P110 changed to 1.5”
    - iii. Change the second P44-1621 to P44-1631
  - c. DB-6
    - i. C52-1013A changed to 1”
  - d. DB-7
    - i. P067 changed to 1”
    - ii. P43-1000B changed to 1.5”
  - e. DB-9
    - i. C52-1013B changed to 1”
  - f. DB-14
    - i. P23-1300B, P23-1400B, P23-1500B changed to 1.5”
    - ii. P23-1000B changed to 1.25”
    - iii. SP31-2000B changed to 2”
  - g. DB-15
    - i. P23-1300C, P23-1400C, P23-1500C changed to 1.5”
    - ii. P23-1000B changed to 1.25”
    - iii. C36-1400C changed to 1”
    - iv. S31-2001A was deleted
  - h. DB-18
    - i. C51-2100A changed to 2”
  - i. DB-19
    - i. P121 removed
  - j. DB-25
    - i. P62-2100 changed to 2”
  - k. DB-36
    - i. S36-1410 changed to 1”
- 2. **Sheets E46 thru E-48:** Ductbank cross sections are re-issued to reflect changes in duct bank schedule. **Revised versions of these sheets are provided as an attachment to this addendum.**

### **Questions:**

The following questions were submitted:

1. Drawing UVS-3, Note 2, indicates a 5000 psi light weight concrete strength for the composite deck topping. Suppliers are indicating a maximum of 2500 psi is all they can attain for lightweight concrete. Is the 5000 psi requirement correct?  
**Answer: A minimum of 3,000 psi light weight concrete is required for this application.**
2. Specification section 03300 2.3.B.1 allows for the maximum size aggregate in slabs on grade, walls, and all concrete shall be 3/4 inch. Our supplier for this project only carries 1" for their concrete mixes. Will you consider mixes using 1" minimum? As 3/4" is not their norm, requiring it will increase the cost of concrete as it is a special request for material not on hand and would also have to add a shrinkage reducing admix.  
**Answer: Due to the close spacing of rebar throughout the project and deep nature of some of the pours (e.g. caisson piers), 3/4" minus is the maximum allowable aggregate size.**
3. The structural drawings provide the "estimated" depth to top of rock from bottom of pile cap. If "rock" is encountered at an elevation lower than the one indicated, will the rebar cage also have to be extended to achieve the minimum rock embedment, or can it be left as is and only extend the drill / concrete depth?  
**Answer: The rebar cage shall extend the full height of the caisson.**
4. In the Q/As #2- "It is structurally acceptable with #5 spiral tie at 7" pitch. Where spiral tie occurs, fabricator shall butt weld them." This response does not make sense to me in regards to "butt weld" Is the engineer possibly requesting welded hoop tie in lieu of spiral? Or maybe the engineer meant to say lap weld where spiral is lapped a turn and a half or two turns.  
**Answer: A butt weld is required for connecting the spiral bar pieces; a lap is not permissible as it would reduce the open space between the spiral bar along the pitch.**
5. On plan sheet C-4 in Volume 4A under NOTES #17 calls out for a Chain Link Swing Gate and to see detail 146/CD-9. Looking on sheet CD-9 and the detail 146., no width for the swing gate opening is given and on plan sheet C-4 the gate opening is not clear. Please clarify the height of the chain link gate and the width of the chain link swing gate called out on Note #17.  
**Answer: The gate height is 7'-0" and the gate width is 16'-0".**
6. Looking at sheet CD-7 for the Ameristar -Impasse Gauntlet 3 Rail fence there is no stated color for the ornamental iron fencing. Ameristar comes in a standard black powder coated color. If another color is wanted, it may increase the price of the Gauntlet ornamental iron fence. Please clarify the color of the Gauntlet ornamental iron fencing.  
**Answer: Standard black powder coated is acceptable.**

7. I do have a question, with the bid date set to be one week later per Addendum 5, potentially falling on October 4th, and the GFE docs due 3 working days later; Does the District plan on observing Monday October 8<sup>th</sup>, which is Columbus Day as a Holiday? If so, The GFE docs would be due on October 10<sup>th</sup> as the 3<sup>rd</sup> working day. Can you please confirm. Our office will be closed on Monday October 8<sup>th</sup> in observance of Columbus Day.

**Answer: The District is open on Monday, October 8<sup>th</sup>. However, the District will acknowledge the holiday as a non-working day with respect to the GFE documents, which will be due on Wednesday, October 10, 2018 as the 3<sup>rd</sup> working day after the bid opening (per Addendum #4).**

8. Review specification section 263213, 263600 and electrical drawings:
- a. Section 1.3: MTU is equivalent to listed manufacture, enclosed is information for designers review and approval

**Answer: Addendum #3, page 8, item 2 answers this question. Equipment meeting the specifications is acceptable for the project.**

- b. Section 2.1B3: Second 500kW generator listed in specification. Is unit required?

**Answer: The 500kW generator listed in Section 263213 is not required as part of the work. This was clarified in Addendum #5 also.**

- c. Section 2.2P: Generator specification lists need for 24 hour UL142 sub base tank. Civil C-40 Equipment yard layout drawing shows separate above ground tank. Can you verify which tank is required.

**Answer: The fuel tank detailed on C-40 and located on C-2 is not associated with the generator. The fuel tank described in 2.2P of 263213 is required.**

- d. Section 2.5: Generator specification list weather protective enclosure. No sound attenuation levels listed. Please verify weather protective only required.

**Answer: The level of sound attenuation required for the standby generator was not listed in this section. The requirement shall be that the standby generator assembly shall be provided with sound attenuation resulting in a maximum of 85 dBA at a distance of 23 feet from the generator enclosure.**

9. After a thorough review of the project plans, we do not feel that the project milestones can be achieved within the Section 01 10 00 defined working hours of 6:30am to 5:00pm M-F. Please provide what steps need to be taken and the costs involved to allow for continuous (24/7) working hours.

**Answer: A 24/7 operating schedule is acceptable where required to maintain the project on the proposed timeline as long as after-hour construction activity does not impact plant operations or require District staff/operators to be onsite. Special notification and planning must be in place for any tie-ins or other activity that may impact plant operations. In addition, we have not had sufficient time to review all CEQA requirements or other limitations that may impact the free implementation of a 24/7 operation. Furthermore, the Contractor must be sensitive to light and noise pollution that are after normal operating hours and provide provisions to reduce direct light infiltration from the site. Additional information may be provided in a future addendum as any concerns regarding CEQA or other local limitations are confirmed.**

**Clarification on 24/7 work: The Contractor shall comply with the City of San Rafael Noise Ordinance and any work to be performed outside the normally defined work hours, per Section 011000, 1.10, B), shall be submitted and approved by the District. The Contractor should be familiar with the entire Noise Ordinance but for convenience the following information from the Noise Ordinance is included:**

**CONSTRUCTION HOURS  
 (includes any and all deliveries)**

MONDAY—FRIDAY	7:00 a.m. to 6:00 p.m.
SATURDAY	9:00 a.m. to 6:00 p.m.
SUNDAY/HOLIDAYS	Prohibited

**TABLE 8.13-2 - STANDARD EXCEPTIONS TO GENERAL NOISE LIMITS**

<b>Type of Activity</b>	<b>Maximum Noise Level</b>	<b>Days/Hours Permitted</b>
<b>Construction</b>	<b>90 dBA</b>	<b>Mon-Fri 7:00 a.m.—6:00 p.m. Sat 9:00 a.m.—6:00 p.m. Sun, Hol.—prohibited</b>

10. The reply 15 in Addendum 4 regarding time when warranty starts, conflicts with the purchase agreements of all the owner selected equipment and other technical specifications in these documents. It is impossible for the contractor to obtain extended warranties for equipment selected beyond what has been accepted or specified elsewhere. Please clarify that equipment warranty will start, when it was placed in to service, Owner takes beneficial use, has been started up or no more than 4 months after delivery.

**Answer: Warranty commencement date shall be as shown in the equipment purchase agreements. Contractor shall coordinate with manufacturers for a delivery schedule such that equipment would not be stored on site for more than 3 months.**

**END OF QUESTIONS SECTION FOR ADDENDUM #6**

**LIST OF ATTACHMENTS**

**Attachment A:** Bid Schedule, re-issued bid schedule pages 2-15 thru 2-24 of Volume 2.

**Attachment B:** Revised drawing sheets for Volume 4B:

- Sheet E-46
- Sheet E-47
- Sheet E-48

**END OF ADDENDUM #6**

See following Sheets for Attachments

## **Attachment A**

### **Revised Bid Schedule (Volume 2 pages 2-15 thru 2-24)**



**BID SCHEDULE – BASE BID**

**DESCRIPTION OF LUMP SUM & UNIT BID ITEMS**

Item No.	Description	WBS Code	Units	Cost
1	<b>General Conditions, Mobilization and Demobilization</b>	N/A	LS	\$ _____
	_____ Item #1, in Written Form			
2	<b>Demolition (excluding MMWD)</b>	110 (excluding MMWD 110)	LS	\$ _____
	_____ Item #2, in Written Form			
3	<b>MMWD Demolition</b>	110, 310	LS	\$ _____
	_____ Item #3, in Written Form			
4	<b>Clear &amp; Grub, Site Work</b>	120, 140	LS	\$ _____
	_____ Item #4, in Written Form			

Item No.	Description	WBS Code	Units	Cost
5	Yard Piping	130	LS	\$ _____
	_____ Item #5, in Written Form _____			
6	Headworks & MCC-3 Building	210, 220	LS	\$ _____
	_____ Item #6, in Written Form _____			
7	Primary Pump Station, Anoxic & Aeration Basins ( <u>excluding caissons</u> )	230, 240, 250 (excluding Caissons)	LS	\$ _____
	_____ Item #7, in Written Form _____			
8	Drilled Pier Caissons (For Primary Pump Station, Anoxic/Aeration Basins, and Electrical Building)	250 (Caissons)	LS	\$ _____
	_____ Item #8, in Written Form _____			

Item No.	Description	WBS Code	Units	Cost
9	<b>Drilled Pier Caisson Allowance</b>	N/A	LS	<b><u>\$60,000.00</u></b>
Item #9, in Written Form				
10	<b>Secondary Clarifiers</b>	260, 265	LS	\$ _____
Item #10, in Written Form				
11	<b>Mechanical Thickeners</b>	280	LS	\$ _____
Item #11, in Written Form				
12	<b>Electrical Building (excluding caissons)</b>	290	LS	\$ _____
Item #12, in Written Form				

Item No.	Description	WBS Code	Units	Cost
13	Recycled Water Treatment Facility Improvements	300, 310, 320, 330, 340, 350	LS	\$ _____
	_____			
Item #13, in Written Form				
14	Dechlorination Chemical Storage and Dosing (Excluding Electrical)	360	LS	\$ _____
	_____			
Item #14, in Written Form				
15a	Electrical, Instrumentation & Controls (Excluding Dechlorination Chemical Storage & Dosing Facility)	400	LS	\$ _____
	_____			
Item #15a, in Written Form				
15b	Dechlorination Chemical Storage and Dosing – Electrical Work	400	LS	\$ _____
	_____			
Item #14b, in Written Form				

Item No.	Description	WBS Code	Units	Cost
16.a	<b>Owner Selected Equipment Item (FFAS)</b>	N/A	LS	<b><u>\$2,152,746.66</u></b>
	Item #16.a, in Written Form			
16.b	<b>Owner Selected Equipment Item (Eductor Tube Mixers)</b>	N/A	LS	<b><u>\$77,206.50</u></b>
	Item #16.b, in Written Form			
16.c	<b>Owner Selected Equipment Item (Secondary Clarifiers)</b>	N/A	LS	<b><u>\$377,014.00</u></b>
	Item #16.c, in Written Form			
16.d	<b>Owner Selected Equipment Item (GE Pressure Membranes)</b>	N/A	LS	<b><u>\$1,606,086.26</u></b>
	Item #16.d, in Written Form			

Item No.	Description	WBS Code	Units	Cost
16.e	<b>Owner Selected Equipment Item (Mechanical Thickeners)</b>	N/A	LS	<b><u>\$313,400.00</u></b>
	<hr/> Item #16e, in Written Form			
17	<b>Sheeting, Shoring, &amp; Bracing</b>	N/A	LS	\$ _____
	<hr/> Item #17, in Written Form			
18	<b>Dewatering</b>	N/A		\$ _____
	<hr/> Item #18, in Written Form			
19	<b>Buried Utility Exploration</b>	N/A	LS	<b><u>\$50,000.00</u></b>
	<hr/> Item #19, in Written Form			

**TOTAL BASE BID, BASIS OF AWARD (SUM OF BID ITEMS 1 THRU 19)**

\$ \_\_\_\_\_  
(In figures)

\_\_\_\_\_  
(In Written Form) Dollars

## **BID ALTERNATES**

The undersigned Bidder offers to make, at the following Bid Alternate prices, the change in the Work covered by the Total Base Bid that is specified in the Bid Alternate priced below.

It is understood that:

1. A price must be filled in for each Bid Alternate item.
2. The acceptance or rejection of the Bid Alternate is at the option of the District.
3. Acceptance or rejection of the Bid Alternate will not necessarily be made on the basis of price alone.
- ~~4. The Bid Alternate price may be adjusted to reflect Contractor's incidental additive or deductive costs resulting from the deletion of the bid item; however, such an adjustment shall not exceed more than one percent (1%) of the respective lump sum bid item shown in the Proposal. However, in general, each Bid Alternate item (including price) should be standalone and independent of the award of other Bid Alternate items.~~
5. The acceptance or rejection of the Bid Alternate will not affect the Total Base Bid or other conditions of the Base Bid items listed above except as specifically noted in the Alternate Bid Schedule.
6. The original Total Base Bid, without deduction or addition shown herein, shall be the basis of award.
7. The costs shown herein for Bid Alternate Items is the net adjustment that is to be applied to the Total Base Bid when calculating the Contract Price if the Bid Alternate is accepted by the District.
8. The final Contract Price shall be the net amount determined by applying the Total Base Bid and any adjustment made by the District regarding the approved and awarded Bid Alternate items. Note that some items in the Bid Alternate schedule are additive (increases to the contract price) and some are deductive (decrease to the contract price).
9. The listed costs shall include changes to mobilization, taxes, permits, overhead and profit, as it relates to each individual alternate item.



**BID SCHEDULE – BID ALTERNATE ADDITIVES**

Item No.	Item	WBS Code	Units	Cost
A.1	UV Building (excluding caissons)	270 (excluding caissons)	LS	\$ _____
	_____ Item #A.1, in Written Form			
A.2	UV Building Drilled Pier Caissons	270 (Caissons)	LS	\$ _____
	_____ Item #A.2, in Written Form			
A.3	Owner Selected Equipment Item (UV)	N/A	LS	<b><u>\$509,485.03</u></b>
	_____ Item #A.3, in Written Form			
A.4	<u>Deduction of Dechlorination Chemical Storage &amp; Dosing Facility (Excluding Electrical)</u>	360	LS	\$ _____
	_____ Item #A.4, in Written Form			

Item No.	Item	WBS Code	Units	Cost
A.5	<b>Deduction of Dechlorination Chemical Storage &amp; Dosing Facility – Electrical Work</b>	400	LS	\$ _____
_____ Item #A.5, in Written Form				

**TOTAL OF BID ALTERNATE ADDITIVE ITEMS, (SUM OF BID ITEMS A.1 THRU A.5)**

\$ \_\_\_\_\_  
(In figures)

\_\_\_\_\_ Dollars  
(In words)

## **Attachment B**

### **Revised Drawing Sheets for Volume 4B**

**Sheet E-46**

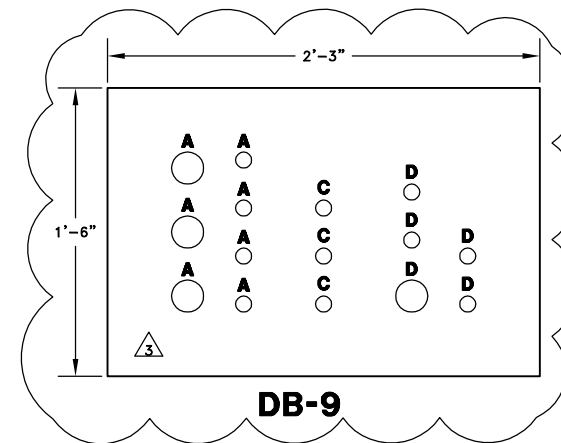
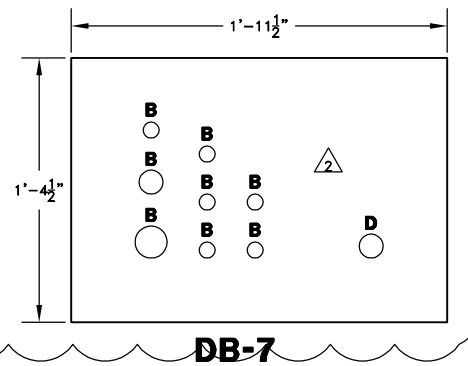
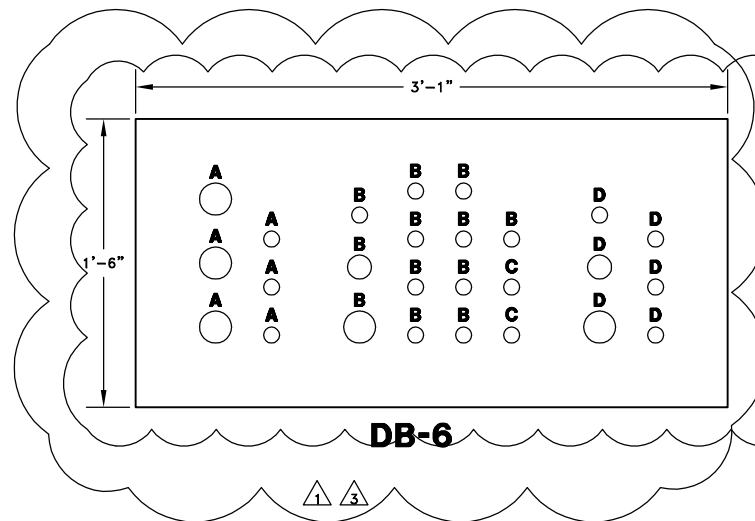
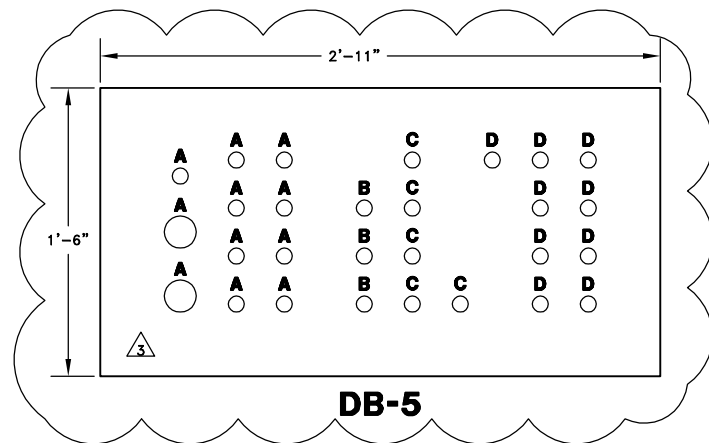
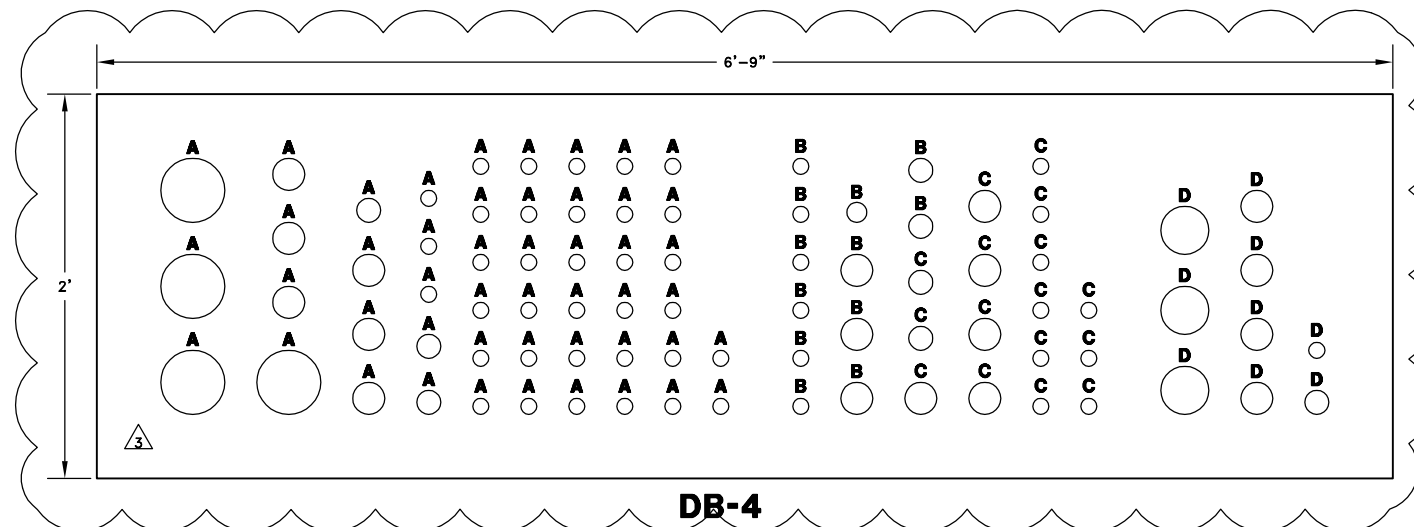
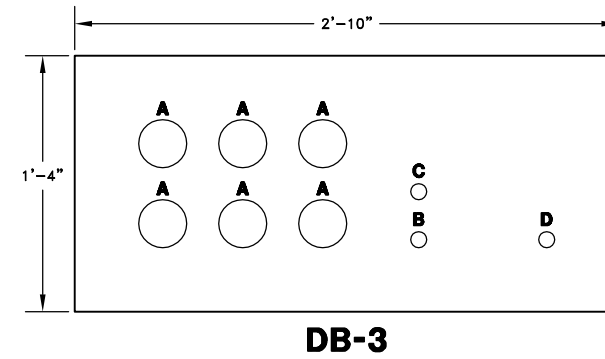
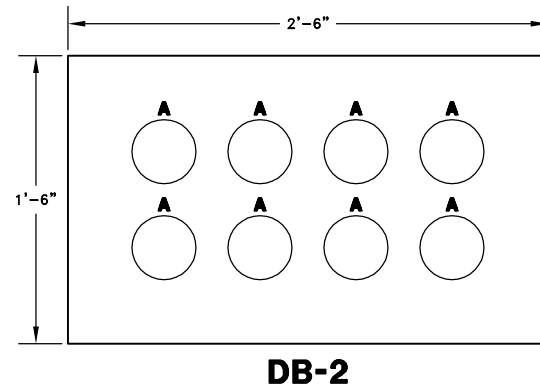
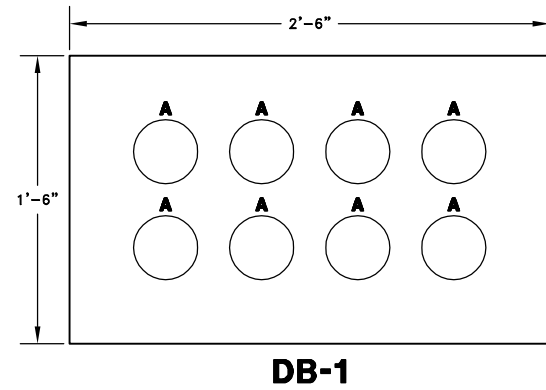
**Sheet E-47**

**Sheet E-48**

K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\14 E-46 DUCTBANK CROSS SECTIONS 1.DWG

PLOTTED: 9/28/2018  
SAVED: 9/28/2018

PLOT: EXTEND  
SCALE: 1:1  
BORDER: 22,34  
COLOR: No.  
RED 0.70MM  
YELLOW 0.20MM  
GREEN 0.25MM  
CYAN 0.40MM  
BLUE 0.50MM  
MAGENTA 0.20MM  
WHITE 0.35MM  
GRAY 0.15MM  
9 0.15MM  
10 1.00MM  
100 0.70MM  
210 0.60MM



**DUCTBANK CROSS SECTIONS**

**CONDUIT DESIGNATION KEY:**

- A 480VAC
- B 120/208/240VAC
- C 120VAC CONTROL
- D SIGNAL, COMMUNICATION, OR 50VDC

	480VAC	120VAC	120VAC CONTROL	SIGNAL	EDGE OF CONCRETE DB
480VAC	2"	4"	4"	12"	4"
120/208/240VAC	4"	2"	2"	6"	4"
120VAC CONTROL	4"	2"	2"	4"	4"
SIGNAL/COMMS/50VDC	12"	6"	4"	2"	4"
EDGE OF CONCRETE DB	4"	4"	4"	4"	NA

**NOTES:**

- ① DUCTBANK CROSS SECTION DRAWING
- ② CONDUITS FOR LIGHTING AND RECEPTACLES ARE NOT SHOWN IN DUCTBANK CROSS SECTIONS

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JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT  
MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE  
AND RECYCLED WATER EXPANSION

ELECTRICAL – POWER DISTRIBUTION  
DUCTBANK CROSS SECTIONS 1

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez

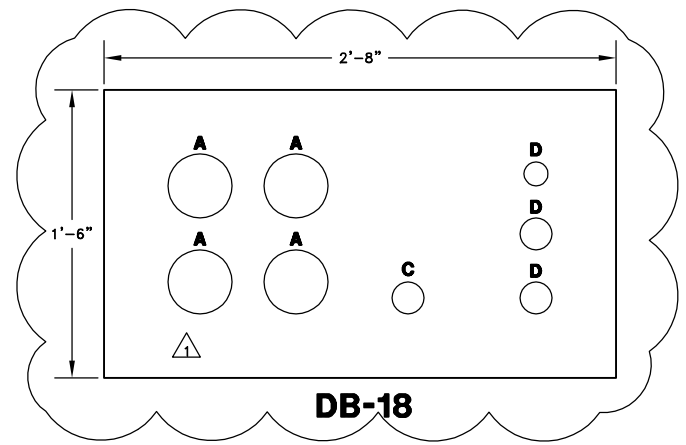
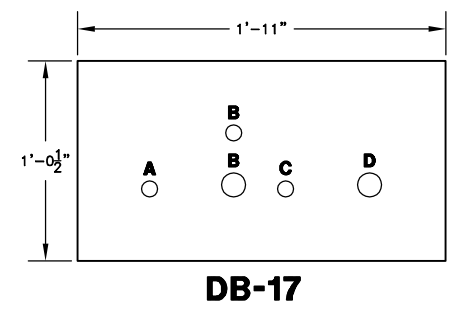
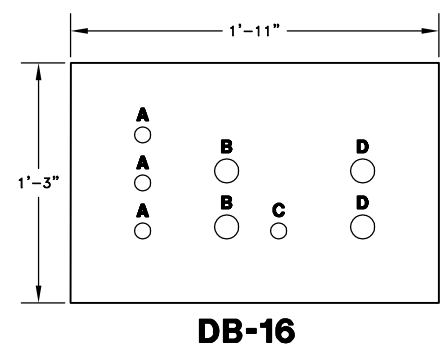
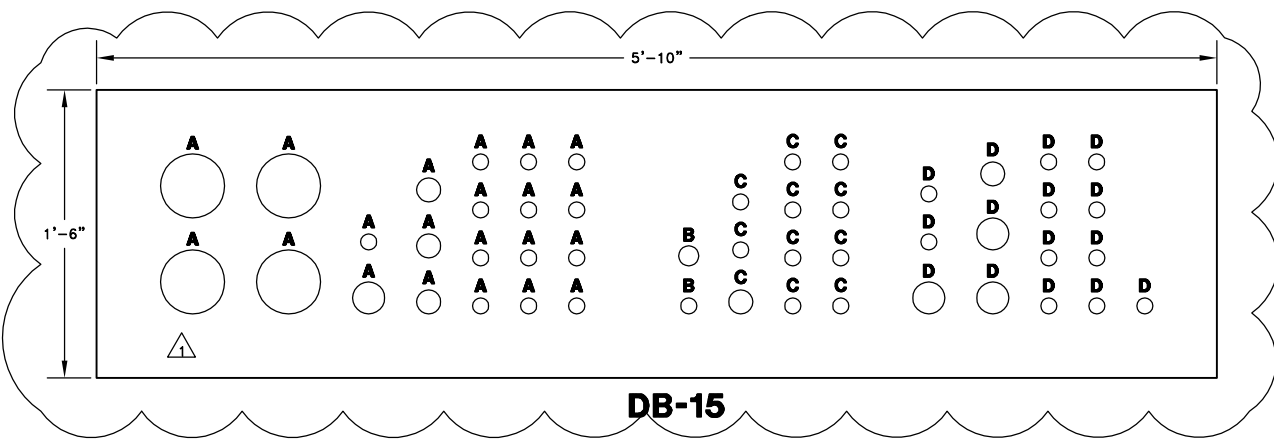
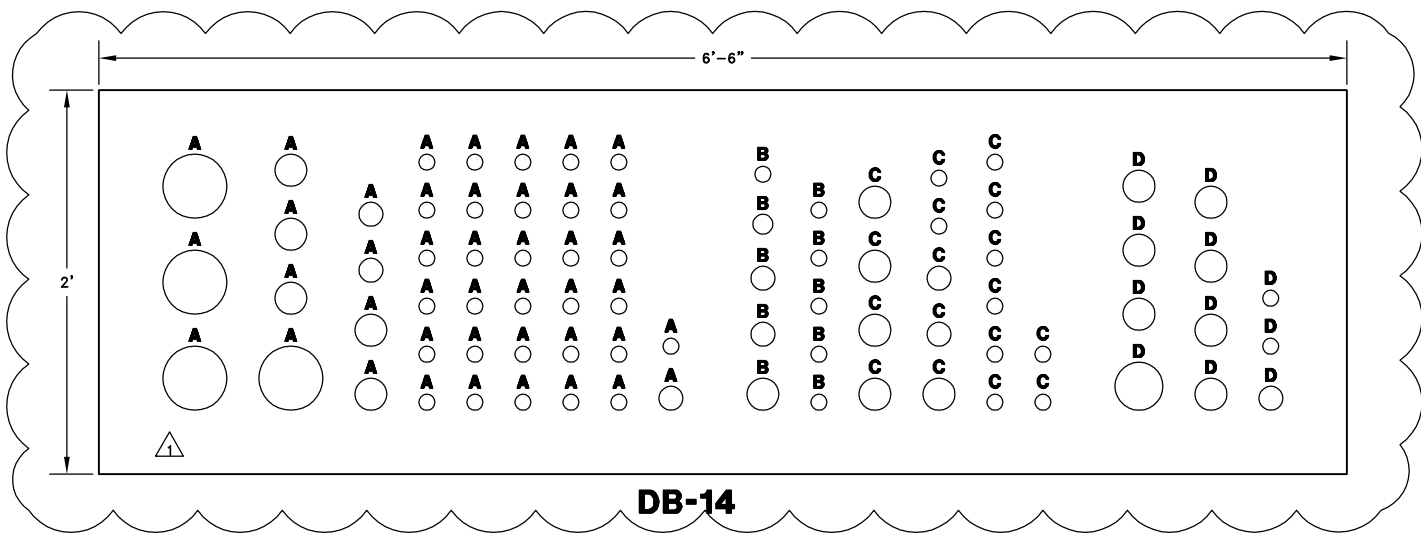
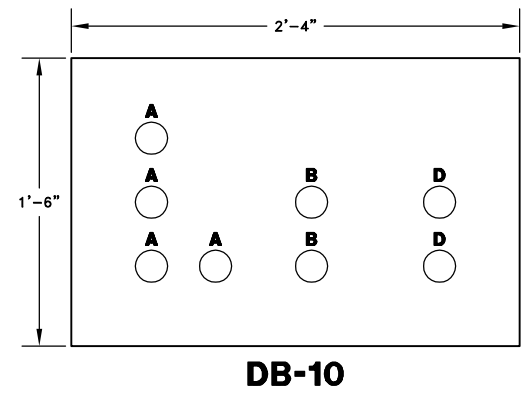
NO.	DATE	DESCRIPTION	BY	APPR'D
3	9/28/18	ADDENDUM #6	MGJ	LAR
2	9/14/18	ADDENDUM #4	MGJ	LAR
1	9/7/18	ADDENDUM #3	MGJ	LAR

SHEET 155 of 159	PLAN NO.	DRAWING NO. E-46	REVISION NO. B
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K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\14 E-47 DUCTBANK CROSS SECTIONS 2.DWG

PLOT: 9/28/2018  
SCALE: 1:1  
BORDER: 22,34  
COLOR: No.  
RED 0.70MM  
YELLOW 0.20MM  
GREEN 0.25MM  
CYAN 0.40MM  
BLUE 0.50MM  
MAGENTA 0.20MM  
WHITE 0.35MM  
GRAY 0.15MM  
9 0.15MM  
10 1.00MM  
100 0.70MM  
210 0.60MM



**DUCTBANK CROSS SECTIONS**

**CONDUIT DESIGNATION KEY:**

A	480VAC
B	120/208/240VAC
C	120VAC CONTROL
D	SIGNAL, COMMUNICATION, OR 50VDC

	480VAC	120VAC	120VAC CONTROL	SIGNAL	EDGE OF CONCRETE DB
480VAC	2"	4"	4"	12"	4"
120/208/240VAC	4"	2"	2"	6"	4"
120VAC CONTROL	4"	2"	2"	4"	4"
SIGNAL/COMMS/50VDC	12"	6"	4"	2"	4"
EDGE OF CONCRETE DB	4"	4"	4"	4"	NA

- NOTES:**
- DUCTBANK CROSS SECTION DRAWING
  - CONDUITS FOR LIGHTING AND RECEPTACLES ARE NOT SHOWN IN DUCTBANK CROSS SECTIONS

**skm** 533 W 2600 S, Suite 25  
Bountiful, Utah 84010  
Phone: (801) 677-0011  
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PHONE (801) 299-1327 FAX (801) 299-0153



NO.	DATE	DESCRIPTION	BY	APPR'D
1	9/28/18	ADDENDUM #6	MGJ	LAR

JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT  
MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE  
AND RECYCLED WATER EXPANSION

**ELECTRICAL – POWER DISTRIBUTION  
DUCTBANK CROSS SECTIONS 2**

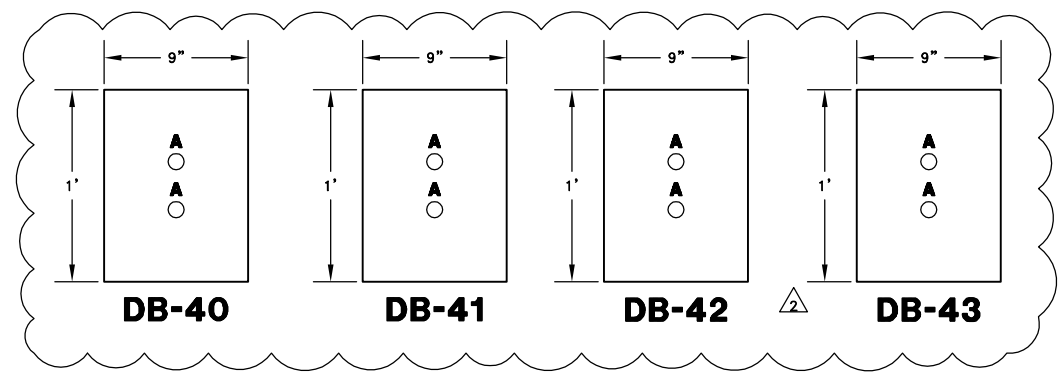
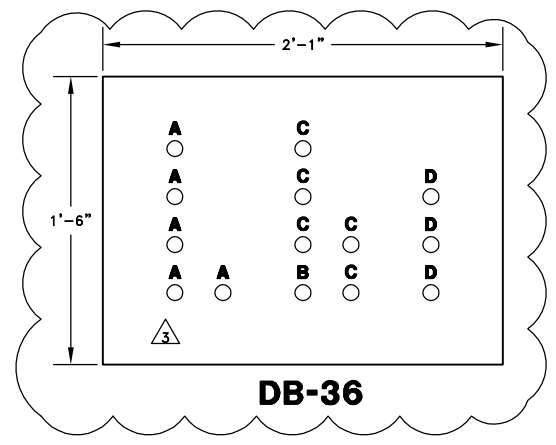
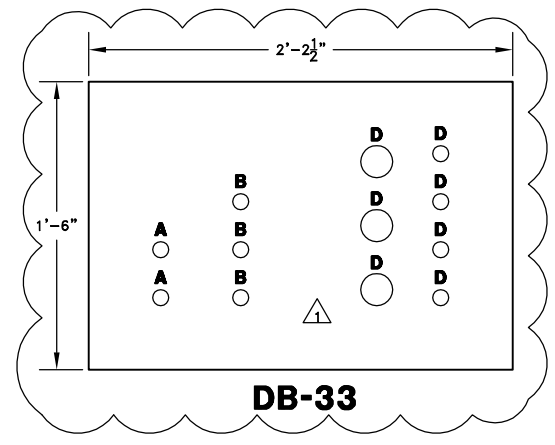
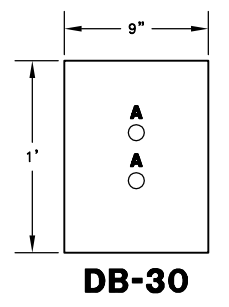
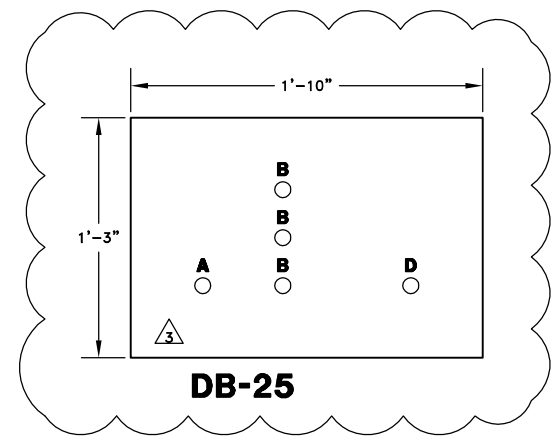
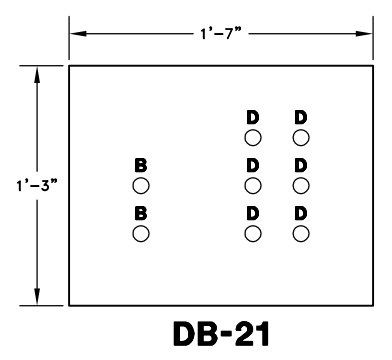
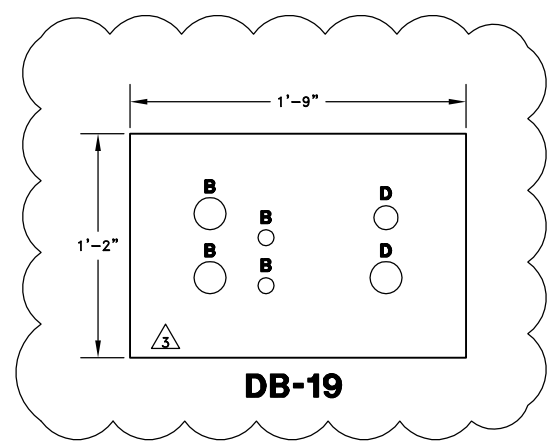
CHECKED MPJ	DRAWN DCL	SCALE NONE
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez

SHEET 156 OF 159 PLAN NO. E-47 REVISION NO. B

K:\LAS GALLINAS\000949.D LAS GALLINAS SECONDARY TREATMENT\SKM CAD FILES\14 E-48 DUCTBANK CROSS SECTIONS 3.DWG

PLOTTED: 9/28/2018  
 SAVED: 9/28/2018

PLOT: EXTEND  
 SCALE: 1:1  
 BORDER: 22,34  
 COLOR: No.  
 RED 0.70MM  
 YELLOW 0.20MM  
 GREEN 0.25MM  
 CYAN 0.40MM  
 BLUE 0.50MM  
 MAGENTA 0.20MM  
 WHITE 0.35MM  
 GRAY 0.15MM  
 9 0.15MM  
 10 1.00MM  
 100 0.70MM  
 210 0.60MM



**DUCTBANK CROSS SECTIONS**

	DISTANCES BETWEEN CONDUITS IN DUCTBANKS				
	480VAC	120VAC	120VAC CONTROL	SIGNAL	EDGE OF CONCRETE DB
480VAC	2"	4"	4"	12"	4"
120/208/240VAC	4"	2"	2"	6"	4"
120VAC CONTROL	4"	2"	2"	4"	4"
SIGNAL/COMMS/50VDC	12"	6"	4"	2"	4"
EDGE OF CONCRETE DB	4"	4"	4"	4"	NA

- CONDUIT DESIGNATION KEY:**
- A 480VAC
  - B 120/208/240VAC
  - C 120VAC CONTROL
  - D SIGNAL, COMMUNICATION, OR 50VDC

- NOTES:**
- 1 DUCTBANK CROSS SECTION DRAWING
  - 2 CONDUITS FOR LIGHTING AND RECEPTACLES ARE NOT SHOWN IN DUCTBANK CROSS SECTIONS

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JOB NO. 12600-07/16650-02

LAS GALLINAS VALLEY SANITARY DISTRICT  
 MARIN COUNTY, CALIFORNIA

SECONDARY TREATMENT PLANT UPGRADE  
 AND RECYCLED WATER EXPANSION

**ELECTRICAL – POWER DISTRIBUTION  
 DUCTBANK CROSS SECTIONS 3**

CHECKED MPJ	DRAWN DCL	SCALE AS SHOWN
APPROVED MPJ	DESIGNED MPJ	DATE 07/26/18
GENERAL MANAGER Chris DeGabriele		DISTRICT ENGINEER Michael P Cortez

NO.	DATE	DESCRIPTION	BY	APPR'D
3	9/28/18	ADDENDUM #6	MGJ	LAR
2	9/14/18	ADDENDUM #4	MGJ	LAR
1	9/7/18	ADDENDUM #3	MGJ	LAR

SHEET 157 of 159	PLAN NO.	DRAWING NO. <b>E-48</b>	REVISION NO. <b>B</b>
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